

**LISTING OF CLAIMS:**

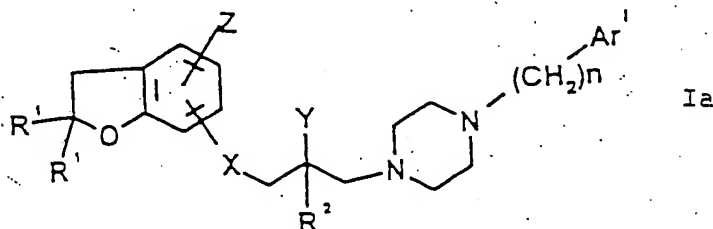


1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Original). A piperazinylalkylbenzofuran derivative of the formula



as claimed in Claim 1, wherein

$R^1$  represents a  $C_{1-4}$  alkyl group,

$R^2$  stands for a hydrogen atom,

X means an oxygen atom,

Y is a hydroxy group,

Z represents a hydrogen atom,

Ar' represents a diphenylmethyl group, a

pyridyl group, a partially saturated

5-membered heterocyclic group containing

~~two oxygen atoms and being condensed with~~

~~a phenyl group, or a phenyl group~~

~~substituted by substituents  $R^5$ ,  $R^6$~~

~~and  $R^7$~~ , wherein

$R^5$ ,  $R^6$  and  $R^7$  mean, independently, a

hydrogen atom, a halo atom, a trifluoro-

methyl group, a  $C_{1-4}$  alkyl group, a

$C_{1-4}$  alkoxy group, or a methylenedioxy

group,

n has a value of 0 or 1,

and pharmaceutically suitable acid addition

salts thereof.

5. (Original) A piperazinylalkylbenzofuran derivative

as claimed in Claim 4, wherein in formula

Ia

$R^1$  represents a methyl group,

$R^2$  stands for a hydrogen atom,

X means an oxygen atom,

Y is a hydroxy group,

Z represents a hydrogen atom,

Ar' represents a diphenylmethyl group, a

pyridyl group, a benzo-1,3-dioxolanyl group

or a phenyl group optionally substituted

by one or two halo atom(s), one or two

methyl group(s), a methylenedioxy group,

a trifluoromethyl group or a methoxy group,

n has a value of 0 or 1,

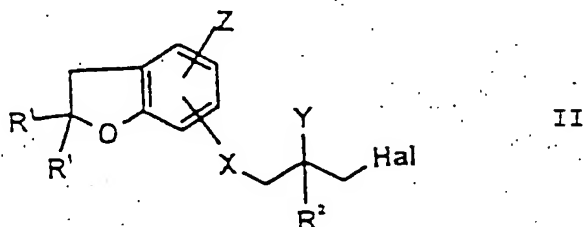
and pharmaceutically suitable acid addition

salts thereof.

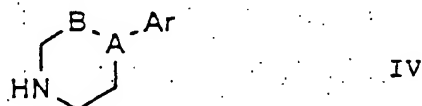
6. (Canceled)

7. (Original). A process for the preparation of a benzofuran derivative of the formula I, wherein  $R^1$ ,  $R^2$ , Z, X, Y, A, B and Ar are as defined in Claim 1, or a pharmaceutically suitable acid addition salt thereof, characterized in that

a) a halide of the formula

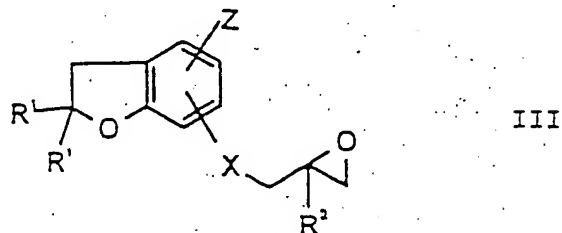


wherein  $R^1$ ,  $R^2$ , X, Y and Z are as defined in connection with formula I, Hal represents a halo atom, is reacted with a secondary amine of the formula



wherein A, B and Ar are as stated in connection with formula I; or

b) for the preparation of a benzofuran derivative of the formula I, wherein Y represents a hydroxy group,  $R^1$ ,  $R^2$ , X, Z, A, B and Ar are as defined in connection with formula I, an epoxide of the formula

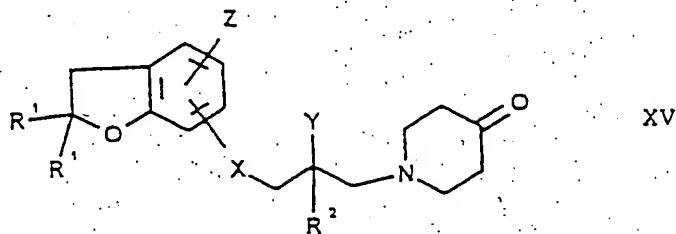


wherein  $R^1$ ,  $R^2$ , Z and X are as defined above, is reacted with a secondary amine of the

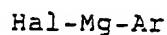
wherein  $R^2$ , A, B and Ar are as stated above;  
or

e) for the preparation of a benzofuran derivative of the formula I, wherein A forms with B a group of the formula  $-C=C-$ ,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as defined in connection with formula I, a benzofuran derivative of the formula I, wherein A stands for a group of the formula COH, B represents a methylene group,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as stated above, is dehydrated; or

f) for the preparation of a benzofuran derivative of the formula I, wherein A represents a group of the formula COH, B stands for a methylene group,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as defined in connection with formula I, however, Ar is other than a hydrogen atom, a ketone of the formula



wherein  $R^1$ ,  $R^2$ , X, Y and Z are as stated above,  
is reacted with an arylmagnesium halide of  
the formula



XVI

wherein Ar is as stated above, Hal represents

a halo atom, and the adduct formed is decomposed with water; or

g) for the preparation of a benzofuran derivative of the formula I, wherein A represents a group of the formula COH, B stands for a methylene group,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as defined in connection with formula I, but Ar is other than a hydrogen atom, a ketone of the formula XV, wherein  $R^1$ ,  $R^2$ , X, Y and Z are as stated above, is reacted with an aryl lithium compound of the formula



XVII

wherein Ar is as stated above, and the adduct formed is decomposed with water; or

h) for the preparation of a benzofuran derivative of the formula I, wherein A represents a group of the formula CH, B stands for a methylene group,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as defined in connection with formula I, a compound of the formula I, wherein A forms with B a group of the formula  $\text{-C=C-}$ ,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as stated above, is hydrogenized; or

i) for the preparation of a benzofuran derivative of the formula I, wherein A represents a group of the formula CH, B stands for a methylene group,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as defined in connection with formula I, an epoxide of the formula III, wherein  $R^1$ ,  $R^2$ , Z and X are as stated above, is reacted

with a secondary amine of the formula IV, wherein A stands for a group of the formula CHOH, B and Ar are as stated above, under dehydrating reaction conditions, and the formed compound of the formula I, wherein A forms with B a group of the formula  $-C=C-$ ,  $R^1$ ,  $R^2$ , X, Y, Z and Ar are as stated above, is hydrogenized in the reaction mixture in which it was prepared; and

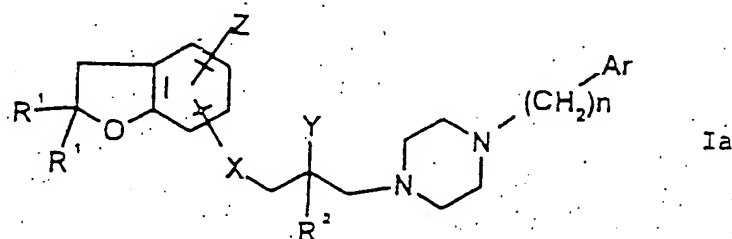
if desired, an obtained base of the formula I is reacted with an inorganic or organic acid to form a pharmaceutically suitable acid addition salt thereof, or liberated from the acid addition salt with a base.

**8. (Canceled)**

**9. (Canceled)**

**10. (Canceled)**

11. (Original). A pharmaceutical composition as claimed in Claim 8, comprising a piperazinyl-alkylbenzofuran derivative of the formula



wherein

- $R^1$  represents a  $C_{1-4}$  alkyl group,  
 $R^2$  stands for a hydrogen atom,  
 $X$  means an oxygen atom,  
 $Y$  is a hydroxy group,  
 $Z$  represents a hydrogen atom,  
 $Ar'$  represents a diphenylmethyl group, a pyridyl group, a partially saturated 5-membered heterocyclic group containing two oxygen atoms and being condensed with a phenyl group, or a phenyl group substituted by substituents  $R^5$ ,  $R^6$  and  $R^7$ , wherein  $R^5$ ,  $R^6$  and  $R^7$  mean, independently, a hydrogen atom, a halo atom, a trifluoromethyl group, a  $C_{1-4}$  alkyl group, a  $C_{1-4}$  alkoxy group, or a methylenedioxy group,  
 $n$  has a value of 0 or 1,  
or a pharmaceutically suitable acid addition salt thereof as the active ingredient.

12. (Original). A pharmaceutical composition as claimed in Claim 11, comprising a piperazinyl-alkylbenzofuran derivative of the formula

Ia, wherein

- $R^1$  represents a methyl group,  
 $R^2$  stands for a hydrogen atom,  
 $X$  means an oxygen atom,  
 $Y$  is a hydroxy group,  
 $Z$  represents a hydrogen atom,  
 $Ar'$  represents a diphenylmethyl group, a pyridyl group, a benzo-1,3-dioxolanyl group or a phenyl group optionally substituted



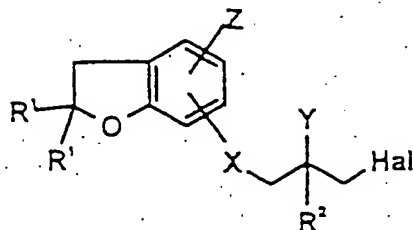
by one or two halo atom(s), one or two methyl group(s), a methylenedioxy group, a trifluoromethyl group or a methoxy group, n has a value of 0 or 1, or a pharmaceutically suitable acid addition salt thereof as the active ingredient.

**13. (Canceled)**

**14. (Canceled)**

**15. (Canceled)**

16. (Original) A halide of the formula



II

wherein

$R^1$  and  $R^2$  represents, independently, a hydrogen atom or a  $C_{1-4}$  alkyl group,

X stands for an oxygen atom or a sulfur atom,

Y means a hydrogen atom or a hydroxy group,

Z represents a hydrogen atom, a halo atom, a  $C_{1-4}$  alkyl group, a  $C_{1-4}$  alkoxy group, an amino group, a nitro group, a cyano group, a trifluoromethyl group or a group of the formula  $-COOR^3$ ,  $-NHCOR^3$  or  $-SO_2NR^3R^4$ ,

wherein

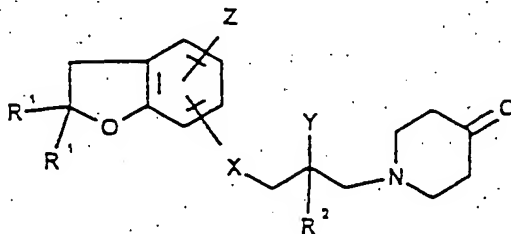
$R^3$  stands for a hydrogen atom or a  $C_{1-4}$  alkyl group,

$R^4$  means a  $C_{1-4}$  alkyl group, or

$R^3$  and  $R^4$  form, together with the adjacent nitrogen atom, a saturated or unsaturated heterocyclic group having 5 to 10 members and optionally comprising one or more nitrogen atom(s) and/or one or more oxygen atom(s) and/or one or more sulfur atom(s),

Hal represents a halo atom.

17. (Original). A ketone of the formula



XV

wherein

$R^1$  and  $R^2$  represents, independently, a hydrogen atom or a  $C_{1-4}$  alkyl group,

X stands for an oxygen atom or a sulfur atom,

Y means a hydrogen atom or a hydroxy group,

Z represents a hydrogen atom, a halo atom,

a  $C_{1-4}$  alkyl group, a  $C_{1-4}$  alkoxy group,

an amino group, a nitro group, a cyano

group, a trifluoromethyl group or a group

of the formula  $-COOR^3$ ,  $-NHCOR^3$  or  $-SO_2NR^3R^4$ .

wherein

$R^3$  stands for a hydrogen atom or a  $C_{1-4}$  alkyl group,

$R^4$  means a  $C_{1-4}$  alkyl group, or

$R^3$  and  $R^4$  form, together with the adjacent nitrogen atom, a saturated or unsaturated

heterocyclic group having 5 to 10 members

and optionally comprising one or more

nitrogen atom(s) and/or one or more

oxygen atom(s) and/or one or more

sulfur atom(s).